

# Bring Your Own Device (BYOD) Roadmap

*The Practical Guide to 1 to 1 Success*



*ClassLink Leadership Series*

*Empowering educators to improve learning through  
innovative systems and services.*



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*“Do not confine your children to your own learning, for they were born in another time”  
- Chinese Proverb*

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## INTRODUCTION

*“A journey of a thousand miles must begin with a single step”*

*-Lao Tzu*

Would you like an engaging, technology-infused, student-centered learning environment within your school, but don't have the budget or infrastructure to provide a device for every student? You are not alone.

The wave of Bring Your Own Device (BYOD) is sweeping into education around the world for good reason. If you aren't already aware, there are BIG benefits to 1 to 1 learning with technology:

- Improved test scores
- Decreased drop-out rates
- Increased rates of course completion
- Improved discipline
- Cost savings on printed materials and hardware
- Increased student engagement in learning

Successfully integrating technology in the classroom with a 1 to 1 model (all students have their own technology device), can be accomplished through BYOD and smart leadership.

This guidebook shares practical insights from many educators to help you and your school make the journey to BYOD.

## HOW BYOD WILL CREATE DIGITAL CITIZENS FOR A GLOBAL ECONOMY

*"Education is not the filling of a pail, but the  
lighting of a fire"*

*-William Butler Yeats*

Times have changed. Today's culture is fueled by technical innovation. But many of us are asking, "Why has the typical K12 classroom been slow to fully embrace technology?" Many classrooms are struggling to get out of the 19<sup>th</sup>/20<sup>th</sup> century instruction rut.

It is human nature to teach as we were taught. Breaking patterns of behavior doesn't come without investment, leadership, and professional development.



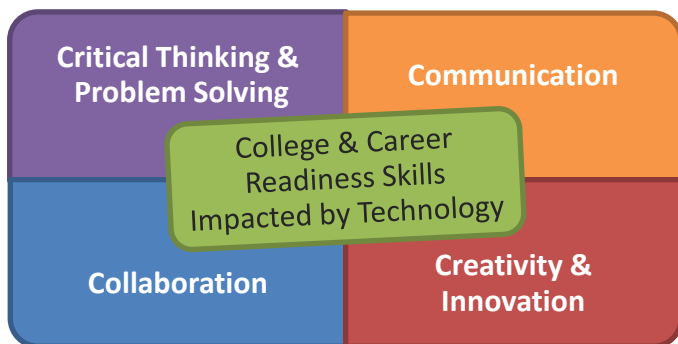
## BUILDING RELEVANT SKILLS

*There are only two lasting bequests we can hope to give our children. One of these is roots, the other, wings.*

*Hodding Carter*

Studies, including the widely supported Partnership for 21<sup>st</sup> Century Skills (p21.org) framework, suggest that in addition to core subjects, students need proficiency in modern day skills of critical thinking and problem solving, communication, collaboration, and creativity and innovation.

No doubt many of us have long been hearing about, (and are perhaps a little bored with), the term 21<sup>st</sup> Century Skills. Many ask, “We are over a decade into the 21<sup>st</sup> Century, should we really be talking about it in the future tense?” Fair enough. Industry and policy makers are now coalescing around the term College & Career Ready. This new term is intended to bring together these 21<sup>st</sup> Century skills with goals in core subjects of English and math. College and Career readiness is meant to ensure relevancy of school to life realities after high school.



## A COMPLETE BYOD VISION

*The great growling engine of change -  
technology!*

*- Alvin Toffler*

### Question

*What's the difference between 1 to 1 and BYOD?*

### Answer

*At first glance the differences seem significant;  
after a closer look, 1 to 1 and BYOD are very similar.*

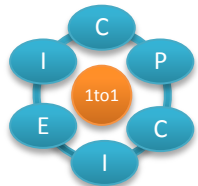
*Moving towards 1 to 1 is moving towards improving learning outcomes. It's a movement towards improved student engagement and improved college and career readiness. BYOD is simply an approach to fund the technology devices. All the remaining tasks, goals and objectives of 1 to 1 remain the same.*

*A successful BYOD project = A successful 1 to 1 project*

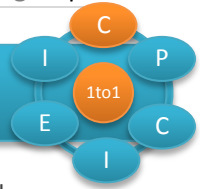
To develop a school culture that embraces 1to1 learning with BYOD involves changes in key areas. Below is a helpful checklist.

### Your checklist for successful 1to1

- ☐ Communication... to staff and parents
- ☐ Policy... set expectations
- ☐ Curriculum... shift from paper to digital materials
- ☐ Instruction... professional development
- ☐ Equity... evolving towards a device for everyone
- ☐ Infrastructure... devices, wireless and bandwidth



## Communication



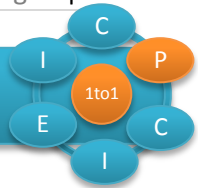
Early communication is a high value exercise. Even where detailed plans are not yet ready, communicating with all stake holders that the intention of the school is to further embrace technology helps set the tone and define direction. It is through these early communications that the purpose of helping students succeed in the modern world can be established. Through communications with staff, parents and students, school leaders can build consensus and enthusiasm. It is also helpful to establish a shared understanding that diligent research and planning is expected but also that “lessons will be learned” and “course corrections will be made” during the process.

### Communication Tips

- ✓ Create a “set the stage” letter to students, staff and parents that preparing students for the modern day must include modern tools in the classroom. Focus on why modern tools are needed, less on what or which specific tools.
- ✓ Whenever speaking with students, staff and parents, remind them that modern tools must be part of modern learning environments
- ✓ Cite research: ISTE’s SIG 1 to 1 does a great job of collecting relevant research reports.  
Take advantage of their dynamic list at  
<http://sig1to1.iste.wikispaces.net/One+to+One+Research+Articles>



## Policy



Brevity and simplicity are keys to any effective policy statement. It's common practice that policy for 1 to 1 comes in the form of an Acceptable Use Policy (AUP) with an attachment for Bring Your Own (BYO). Great schools know how to communicate expectations in the fewest pages possible. Some even manage to get it done in one page! (visit [www.classlink.com/byod/resources](http://www.classlink.com/byod/resources) for samples).

### AUP Tips

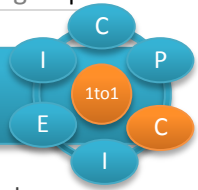
**Section 1:** Purpose: Use this section to remind everyone why we are here and why technology matters. Include your school's mission statement, a philosophy statement on using modern tools in learning and a statement about student safety.

**Section 2:** Code of conduct: Use this section to communicate expectations. Just as there is a school code of conduct, there should be a technology code of conduct. Users are responsible to use technology tools in accordance with instructional purposes. Use of technology for any other purpose is considered inappropriate and subject to disciplinary actions.

### Special note on BYOD

Don't over think this. Schools have been addressing personal assets in school forever, think bicycles, musical instruments and jewelry. Existing rules of personal responsibility for personal assets may work fine for your BYO project without having to clutter your AUP with more language.

## Curriculum

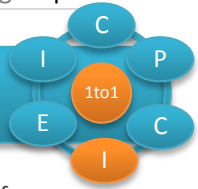


There has been unprecedented growth in quantity and quality of online instructional resources in recent years. Whatever your position on educational standards is, this effort of codifying and unifying learning expectations has created fertile ground for content creators around the world. With advancements in delivering interactive experiences and our collective global capacity to produce curricular materials, today's classroom has access to richer resources than ever before. It's no surprise that schools around the world are moving away from traditional textbooks to digital materials.

### Curriculum Tips

- ✓ With all the diversity and choices of learning materials available today, it is easy for your curriculum to get distracted and off track. Now more than ever a school needs to have a well devised curriculum plan that articulates what and when topics should be addressed. *Looking for an easy-to-use pacing or scope and sequence guide? Take a look at [classlink.com/ontrack](http://classlink.com/ontrack).*
- ✓ A good curriculum clearly states goals while allowing teachers the creativity to use varied resources. When instructors use diverse learning resources, they help differentiate instruction in the classroom. *Looking for an easy way to personalize the delivery of learning resources to each student? Take a look at [classlink.com/launchpad](http://classlink.com/launchpad).*

## Instruction



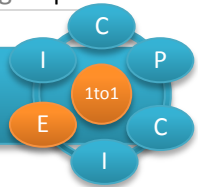
Professional development is critical in making a shift from teaching with books and paper to enhancing teaching and learning with technology and digital resources. Some will adapt quickly, and others, less so. Embrace this reality and encourage the fast paced adaptors to share their insights. Celebrate successes and attempts for success alike.

### Instruction Tips

- ✓ Encourage teachers to start small. New Canaan Public Schools, a 6 year veteran in BYOD, had their teachers begin BYOD with something they call “Assured Experiences.” These individual learning plans incorporated technology for a set period of time, one activity at a time. This use of simple technology integration provided teachers with the opportunity to observe what 1 to 1 instruction looks like on a small, controlled scale.
- ✓ Get a cohort group of your tech savvy teachers to act as mentors for those less comfortable with technology. These teachers may be deemed as Technology Integration Specialists who have completed a course on helping their fellow teachers. Encourage them to share learning plans and resources. Look for technology solutions that will allow teachers to collaborate.
- ✓ Encourage capacity building. Teachers cannot teach what they do not know. Encourage Professional Learning Communities (PLCs) where teachers can share insights. Bring in professional development experts and have them conduct demonstration learning activities using technology.



## Equity



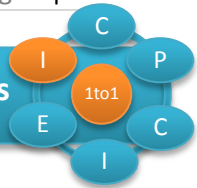
The question of equity comes to the forefront of most BYOD discussions. What happens to the students who cannot afford or do not have access to a personal device?

It may come as a surprise that BYOD can actually help with the question of equity. When students utilize their own technology, it frees up district resources for the students without access to technology. Schools around the country are using BYOD to augment and not replace school owned technology, similar in some ways to free and reduced lunch programs. With BYOD more technology appetites are fed.

### Equity Tips

- ✓ If school leadership does not prioritize sweeping technology investment, go BYOD and start small. Allow teachers to decide how BYOD programs will operate in their classrooms. Encourage teachers to make specific assignments that utilize technology and have supplemental school-owned devices available to check out.
- ✓ If school leadership prioritizes sweeping technology investment, your device equity issues may be negligible. You may still consider BYOD to supplement school purchased equipment.
- ✓ Remember that tech equity includes both devices and Internet access. For students without access to the Internet beyond their school, collaborate with local and national Internet service providers to create programs for free or discounted internet access from home.

## Infrastructure – Bandwidth and Wireless



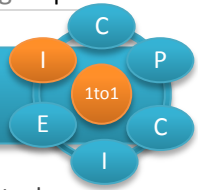
1 to 1 and BYOD require flexible learning environments where students can access the Internet from anywhere. You need to create a robust wireless network that contains the following: enough bandwidth to accommodate the influx of new devices.

### Infrastructure – Bandwidth and Wireless Tips

- ✓ Begin today. Even connecting a few targeted classrooms and common areas is better than no connection. Remember, the first cell phones only had limited coverage, too.
- ✓ The correct answer to the question ‘*How much Internet bandwidth do I need?*’ is ‘*All you can afford!*’ Today’s schools rely on online or cloud-based instructional materials, productivity applications, school administrative software, and file storage. Each year it’s something new. Plan on routinely upgrading bandwidth.
- ✓ Assume more devices than people will one day connect to your wireless network; plan accordingly.
- ✓ An experienced wireless networking professional should conduct a site survey with the proper equipment to produce a map highlighting optimal locations for your wireless access points. It is not uncommon for a large school with cement walls to have upwards of 60 access points. Don’t let the numbers put you off. With infrastructure reliability, your motto should be “quality is job one.”



## Infrastructure – Security and Safety



The question of security is always at the top of the list when discussing BYOD - and rightfully so. Not only are there concerns with the personal security of students using, accessing and sharing information, but there is also the need to protect the district's computer systems and data. Today's modern firewalls and web filtering technologies are absolutely up to the task.

### Infrastructure – Security and Safety Tips

- ✓ Modern wireless networks allow for Guest access privileges which grant Internet access without entry into school computer systems, perfect for BYOD. *Need access to network files and applications from Guest access? Consider a personal cloud desktop that gives safe access while staying "off the network."* Take a look at [classlink.com/launchpad](http://classlink.com/launchpad).
- ✓ Some BYOD schools prefer to "gate" their wireless network and only allow approved devices on the network. This involves extra work to collect from each approved device a 12 character MAC ID and enter that ID into the wireless network. Skip this extra work if you do not have the staffing for it.
- ✓ Students may need a place to charge their devices. Consider adding power stations in central areas for students to use. Also consider including in your school's policy that students should fully charge their devices at home.



## FUNDING

A major consideration when starting any new initiative in education is funding.

Thankfully, there are many opportunities to save costs with a BYOD model. The first - and most obvious - is the ability to create a 1 to 1 learning environment without having to purchase a device for every student. As we have already discussed in the Equity section, this practice frees up school-owned technology for students who are unable to bring in their own device.

A second area of savings comes from transitioning to digital materials from a paper-based curriculum. Using eBooks and eLibraries can eliminate costly textbooks and other paper based resources. Also by “going digital,” teachers can collect assignments via virtual drop boxes. You are not likely to get every teacher onboard at the beginning, but each teacher who urges students to submit work digitally adds to the savings.

Schools who implement BYOD are also typically transitioning to cloud-based solutions that qualify for federal E-Rate discounts. The E-Rate program can translate into meaningful discounts ranging from 20% to 90% of the cost of eligible services.

### *Did you know...*

*E-Rate can help fund a personal cloud desktop for your BYOD project?*

*Take a look at [classlink.com/launchpad](http://classlink.com/launchpad).*



## 1 TO 1 DEVICES

*"It is the framework which changes with each new technology and not just the picture within the frame"*

*-Marshall McLuhan*

With an overwhelming selection of devices in today's marketplace, unless you are limiting choice, anticipating which BYOD devices to expect in your school or district can be an impossible task. One thing heard again and again from administrators in BYOD environments is "I never fail to be amazed by the new devices that students bring- you never know what is going to walk through that door!"



The underlying challenge when all these different devices come parading into your classrooms, many of them with their own internet access is...

*How do you keep BYO devices  
from being distractors?*

*or*

*How can I get BYO devices to  
help improve learning?*



It's no secret that technology devices can be both powerful tools in learning as well as productivity sapping classroom distractions. This distractive reality is a timeless dilemma for technology, as old as the introduction of chalk-based writing slates into schools! Naturally a set of understood and enforced classroom conduct rules can greatly reduce inappropriate use of any tech device. In the past, schools relied heavily on countless lock down and control technologies that essentially barricaded a student into using school technology within a defined use pathway. Teachers and students felt stifled when no one could install software on school computers or even download a browser update, but it worked. These lockdown techniques, however, are not an option on devices owned by students, especially when they come in with their own Internet connection. It's clear the old way of instructional technology management will not work, and a new solution is needed quickly.

Today's classrooms need a progressive way to bring the focus of BYO devices towards instructional goals. We need to make it easy for a student or teacher to sign in from any device and see their personal cloud. Whether a laptop, tablet or smartphone; at home or at school, every device should deliver easy access school content and school files. With a personal cloud experience, every device, whatever, wherever can help improve learning.



## SOLUTION TO MAKE BYOD A BREEZE

*The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn.*

*Alvin Toffler*

In every BYOD environment, there are universal needs once the policy, curriculum, instruction, equity and infrastructure are in place. These include the following: How do we...

- Ensure all these different tech devices stay on task?
- Deliver the right learning content to any device?
- Access school network resources from any device?
- Print to the network from any device?
- Simplify and reduce the need for multiple sign ins?

What if there was a solution to streamline the BYOD process and meet all of the above needs? There is!

*ClassLink LaunchPad is the leader for BYOD environments. Designed exclusively for education, LaunchPad provides users with easy, 24/7 access to all their school resources from any device, anytime, anywhere.*



*With LaunchPad, you can deliver both web-based and Windows-based apps to every device.*

*With LaunchPad, schools can deliver personal cloud desktops for all users on any device.*

*With LaunchPad, students and teachers can now access files stored at school from any device.*

*With LaunchPad, teachers can browse hundreds of free web resources by subject and grade level. Easily find and supplement digital resources in seconds.*

*With LaunchPad, students and teachers can skip login screens for many applications. Never get hung up remembering passwords again!*

*Do you have teachers who are skittish of learning new technology? LaunchPad is easy to use. Teachers start by simply dragging and dropping icons to add their favorite applications onto a cloud desktop. This makes moving into the cloud easy.*

## CONCLUSION

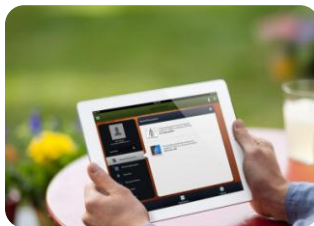
*“Man improves himself as he follows his path; if he stands still, waiting to improve before he makes a decision, he’ll never move”*

*- Paulo Coelho*

The best way to begin your BYOD journey is to take the first step- say yes to BYOD. Technology is already pervasive in many classrooms; however, without personalizing it and reaching that important 1 to 1 ratio goal, its potency as a tool to improve learning is hampered.

This guide is designed to better prepare you to become a 1 to 1 and BYOD leader within your district, school or classroom. BYOD cannot be accomplished without proper leadership. With research showing 85% of children in the United States under the age of 18 having access to mobile technology, it is time we take advantage of these resources.

*The future is here! Let’s embrace it!*



## HELPFUL BYOD RESOURCES

*The whole purpose of education is to turn mirrors into windows”*

*- Sydney J. Harris*

Visit [www.classlink.com/byod/resources](http://www.classlink.com/byod/resources) for our complete resource library on how to go 1 to 1 with BYOD.

Call 888-963-7550 to speak with an educational technology consultant about your BYOD journey and receive resources to facilitate that journey today!

For help with planning your BYOD initiative, visit our partner’s site at [www.knowledgenetworksolutions.com](http://www.knowledgenetworksolutions.com) for educators dedicated to strategic consulting and integration of learning solutions.

